

- Haplotrema concavum* (Say). L  
*Gastrocopta armifera* (Say).  
     *contracta* (Say).  
     *pentodon* (Say). L  
*Vertigo gouldii* (Binney). L  
*Columella edentula* (Drap.).  
*Strobilops labyrinthica* (Say). L  
*Guppya sterkii* (Dall). L  
*Euconulus chersinus* (Say). L  
     *chersinus dentatus* Sterki.  
*Striatura meridionalis* (P. & F.). L  
*Hawaiiia minuscula* (Binney).  
*Retinella indentata* (Say). L  
     *rhoadsi* (Pils.).  
     *virginica* Morrison.  
*Ventridens suppressus* (Say).  
*Zonitoides arboreus* (Say).  
*Anguispira alternata* (Say).  
*Helicodiscus parallelus* (Say).  
     *singleyanus inermis* H. B. Baker.  
*Punctum vitreum* H. B. Baker. L  
*Carychium exile* H. C. Lea. L  
     *nannodes* Clapp.

Those species marked L were found *living*, on the same date, in the leafmold on the upper slopes of Dickey's Hill, just above one of the sink-hole entrances, through which this drift was washed into the Skyline Caverns. In addition to the Land Snail shells, one very small specimen of ?*Fontigens nickliniana* (Lea)? was recovered from this drift. Does this little Freshwater Snail live in caves as well as springs?

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## LAND SNAILS NEW TO THE FAUNA OF PENNSYLVANIA

BY GORDON K. MACMILLAN  
Carnegie Museum

Collections made in some sections of Pennsylvania during the past two years have brought to light three land snails that have never before been recorded in this State. The credit for their discovery belongs to Charles Wurtz, a recent graduate from the University of Pittsburgh. These snails are :

*Polygyra fraterna cava* Pils. & Van., from Wintergreen Gorge, near Erie, Erie Co.

*Paravitrea capsella* (Gould), from Hillside, Westmoreland Co.

*Retinella carolinensis* (Ckll.), also from Hillside, Westmoreland Co.

*Polygyra fraterna cava* Pils. & Van. has been found in various localities from New Brunswick to Minnesota and south from Iowa to West Virginia. The state of Pennsylvania falls within this area, and the presence of this variety in this state is not surprising. It is, however, surprising that *Polygyra fraterna cava* has not been found in Pennsylvania before this time. More thorough collecting throughout this state may bring to light more specimens of this variety, and, perhaps, a revision of the species *fraterna* in the collections of some of our larger museums may reveal the existence of more specimens of this variety in Pennsylvania through misidentification.

Until last summer no specimens of *Paravitrea capsella* (Gld.) had ever been recorded from this state. The species is distributed throughout Alabama, Georgia, South Carolina, North Carolina, Tennessee, Kentucky, West Virginia, and Virginia. Its presence in western Pennsylvania should be expected, as that locality is within the same drainage system as the most northerly extent of *Paravitrea capsella* in West Virginia. Some of the northcentral counties in West Virginia are traversed by the same rivers and mountains that are found in the southwestern section of Pennsylvania. It was along the Monongahela River route and Chestnut Ridge that this species moved northward into that section of Pennsylvania in which it is now found. It is possible that this species followed the Monongahela River valley northward and then the Allegheny, turning southeastward along the Kiskiminetas and Conemaugh until it reached the Chestnut Ridge. Or perhaps it just migrated along the crest of the Chestnut Ridge, being an inhabitant of the entire ridge from West Virginia to the northeastern extent of Westmoreland County.

Along this same water and mountain route *Retinella carolinensis* (Ckll.) has entered the same section of Pennsylvania. This species has much the same distribution of *Paravitrea capsella*, but somewhat greater, being found also in Mississippi and Maryland.

With the last two species of snails there are two factors to be taken into consideration concerning their presence in that part of Pennsylvania. First, that the climatic conditions have been favorable for their existence in this part of the state, that their food has always been available, and that the river courses have made easy routes of distribution to make the northward migration desirable. Second, that this apparent northward migration might be a resettlement or repopulation of territory once occupied by these species before they were driven southward by the encroachment of the last glacier.

To have a complete knowledge of the molluscan fauna of Pennsylvania more thorough collecting must be made in some of the less accessible places in this state, especially those in the more mountainous sections of the central part.

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## NEW MEXICAN SPECIES OF *SPIRAXIS*

BY H. BURRINGTON BAKER

This constitutes part 5 of a series on Mexican mollusks collected for Dr. Bryant Walker in 1926. The first paper appeared (1928) as Occasional Papers Mus. Zool. Univ. Michigan, no. 193, in which the symbols for localities are explained on pp. 2-25.

*SPIRAXIS* (*RECTAXIS*) *GRANUM*, new species.

Shell (pl. 9, f. 5) cylindrical-turrite, light corneous to whitish, glassy and transparent, with very low, flattened growth-threads. Whorls  $7\frac{3}{4}$ , flattened convex, with rather shallow, weakly crenulate suture. Apex large; embryonic whorls about 3, quite rapidly widening; first  $1\frac{1}{4}$  almost smooth; remainder gradually assuming rounded growth-threads, demarcated by incised lines with weak traces of spiral striae. Later whorls medium in length, very gradually increasing, with low, flattened growth-threads, which die out basally on last whorl and are more than  $\frac{1}{2}$  width of their interspaces, that show fine growth-striae but lack definite spirals; first neanic whorl with 37 threads; second with 40; third with 42 and last whorl with 45. Aperture oval-trapezoidal, with longest dimension about  $35^\circ$  to shell-axis; peristome simple, almost vertical and very little arcuate; columella almost straight, rounded and quite heavy, tapering more abruptly towards basal end. Alt. 2.97 mm., diam. 31 (0.93 mm.), alt. last whorl 39 (1.16 mm.);